

ARM Nauru Research Station

Site Visit 0708N Report

Visit Duration: 16 August to 30 August 2007

Nauru Island, Republic of Nauru

SV-0708N Final Report

Site: Nauru	Dates on Site: 16 - 30 August 2007
Team Members: Troy Culgan Mike Ryczek	Required Items & Other Actions: <ul style="list-style-type: none"> • DC-to-DC converters (4 12V and 4 24V, ship from SGP) • Waterproof 110-V outlets - MA to purchase • New IRT PC and cables (on site) • RHE OS HDs (4) (on site) • Loggernet upgrade CD (on site) • MPL port window glass (on site) • CIMEL EPROM from SGP (on site) • MWR PC (ship from Darwin after config) • Nera SAT phone (ship from SGP week of 23Jul) • Anemometer w/ replacement cable (ship from Darwin) • Newly calibrated loggers (ship from Darwin) - TC • AED upgrade software (hand-carry from Darwin) • 6 12V Gell Cell Batteries for Instrument Field Power (on site) • AERI Scene Mirror (on site)
Task Summary:	Safety: <u>Major Hazards:</u> Caustic chemicals (KOH), Explosive gas (H2), AC electricity <u>Hazard Controls:</u> BOM Electrolyser Handbook, BM Electrolyzer Operations/Maintenance Training, ASNZS 4836/2001-Safe Working on LV Electrical Installations, 2-man rule When replacing items (e.g., desiccant, filters, etc.), record and report the quantity of spares left on site.

SITE TASKS

High priority / usually non-routine

Low priority / usually routine

Completed

Priority	System	Date Completed (dd/Month)	Service Time (hours)	Tasks For each priority item insert new line (row) for each date/time entry
1	BBSS			Replace DigiCORA II w/ new DigiCORA III
		18-Aug	6	Preparations for Digicora III install
		19-Aug	4	Digicora III installed (BBSS amp switch installed)
1	BBSS			Train Observers on DigiCORA III operations
		19-Aug	1	Commence training observers (Franklin given instruction)
		20-Aug	1	Robroy Whippy given instruction
		21-Aug	2	Equina & Andrew given instruction
1	BBSS			Update DigiCORA III software
		18-Aug	1	Digicora III software updated to version 3.52.1
1	BBSS			Update GC25 firmware
		19-Aug	1	GC25 fimware updated to SW 3.020 (serial#A17105) & (serial # A12426, spare)
2	SMET			Check lower anemometer for alignment - needs replacing
		20-Aug		Lower anemometer replaced. Anemometer serial# 73681/08234 installed. Instrument replacement form sent.
3	MWR			Install new PC
		21-Aug	1	MWR GX 270 (serial number JGW9Q41) replaced with GX620 computer property tag 1153921 (serial number 76RC881)
4	IRT			Install new IRT PC and data cable (IRT PC and cable to ship from SGP) - LJ to ask Morris
		23-Aug	4	In Progress, require the following information from mentor: IRT computer IP address, IRT configuration, 7) start IRT data acquisition program What is the login/password to log into IRT computer? What is the data acqusition program and how do we start it?

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		24-Aug	2	IRT computer installed, serial connection to IRT computer installed. IRT serial communication set at 19.2K N-8-1, Trig=on, sample rate set to 0.1 sec
5	IRT			Change IRT emissivity value from 1.000 to 0.987 (per BCR 1384)
		17-Aug	0.5	Emissivity value change to 0.987 per BCR1384 at 23:30, 16Aug07 utc
6	IRT (SKY)			Install new IRT ventilated enclosure
				Not required this site visit
7	AERI			Install Scene Mirror
		18-Aug	1	AERI scene mirror replaced
8	DS			Change out R1 PC
		19-Aug	0.5	Facility Contact WorkSheet (CS-2007-0369) Facility Contacted: Nauru Contact Date: 10-May-2007 Contact Time: 03:25:00 UTC Contact Sheet Initiator: Culgan, Troy Person or System Contacted: Teimitsi, Franklin System(s) Related to Contact: OTHER Contact Subject/Keywords: R1- hardware replacement Contact Details: Ron Reed requested that I work with the Nauru observers to replace the failing hardware of the R1 computer. Hard drive was removed from current R1 computer and put into a spare GX620. Awaiting Ron to verify R1 operability. Observers involved Franklin and Rb Roy.
9	DS			Install 4 upgrade RHE OS HDs (per BCR 01142)
		21-Aug	2	Installed RHE OS HD's. Worked with Matt McDuff to restore connectivity to NFS and Collector
10	CIMEL			Install new CIMEL EPROM
		22-Aug	1	Request Wayne Newcomb confirm to perform change.
		23-Aug	1	EPROM change performed at 22:00 22 Aug07 utc
		30-Aug	2	Repair serial communication cable, evidence it had been chewed
11	HVAC			Perform HVAC repair - Culgan to check w/ Andrew K.
		21-Aug	6	Mike replaced HVAC#1 in E-Van
12	HVAC			Train local electrician (William)
		21-Aug		Not required
13	HVAC			Pressure-wash outdoor condenser coil
		24-Aug	2	Completed
14	ES&H			Update AED software
		17-Aug	0.5	AED software updated
15	ES&H			Restock first-aid kit on site
		25-Aug	0.5	Personal First Aid kit on site is stocked, recommend sending a replacement Industrial First Aid Kit
16	GENSET			Verify correct operation of Genset exerciser card; check time settings; replace timer battery

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		17-Aug	1	Battery changed, exerciser timer programmed for once weekly test at 11:00 Wednesday Nauru local time, test run 15min
17	GENSET			Change oil, oil filter, fuel filter, Racor filter; Take SOS to Darwin for analysis - work w/ local GENSET tech
		24-Aug	1	Oil purchased
		28-Aug	4	Genset maintenance complete
18	LGR			Loggernet upgrade using CD sent from M. Ritsche
		22-Aug	1	Awaiting administrator user name & password so that correct IP address can be set on computer
		23-Aug	1	Installed during loggernet computer change to GX620 with corepc
19	OTHER			Mark up site plans for CAD update
		29-Aug	4	checked drawings provided for accuracy
20	OTHER			Locate old PNNL NIES IBM 600E laptop (WD23534) - destroy HD
		21-Aug	1	Not on site
21	OTHER			Locate old PNNL NIES IBM 380XD laptop (WD22312) - destroy HD
		21-Aug	1	Not on site
22	OTHER			Remove PII from Observer PC (and record SN) as per procedure
		25-Aug	1	PII removed from Observer PC property tag 1144280, observers instructed about procedure
23	OTHER			Remove PII from Kaierua PC (and record SN) as per procedure
		25-Aug	1	PII removed from spare observer PC Dell GX270 serial number 3L5ML51
24	MPL			Check MPL port window
		18-Aug	0.5	MPL window checked and cleaned; condition OK
25	COMM			Check SAT phone extension from D-Van to E-Van
		20-Aug	2	Sat phone operation D-Van to E-Van verified operational E-Van Number 872-76-322-2790
26	COMM			Program SAT phone to allow dialing in on weekly Ops teleconference
		18-Aug	0.5	Ops teleconference number programmed to NERA Satphone
27	LGR			Modify DC power supply to loggers (pending BCR 615)
				Not yet shipped
28	LGR			Logger change out w/ newly calibrated unit from Darwin
		18-Aug	2	SMET, SKYRAD & GNDRAD loggers changed out, instrument replacement forms sent
29	COMM			Check Iridium SAT phone
		21-Aug		Checked operational
30	OTHER			Replace instrument PCs w/ new Dell GX620s (CEIL, Loggernet, TSI, MWR, MPL, SAM, BBSS)
		19-Aug	2	Prepared GX620's for ceilometer and MWR change out
		20-Aug	1	Ceilometer GX 270 (WD45418) replaced with GX620 computer property tag 1153919 (serial number J3RC881)
		21-Aug	1	MWR GX 270 (serial number JGW9Q41) replaced with GX620 computer property tag 1153921 (serial number 76RC881)

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		24-Aug	1	Loggernet GX 270property Tag WD42291 (serial number J5SYH31) replaced with GX620 computer property tag 1153917 (serial number 44RC881)
31	WND			Replace anemometer cable w/ standard cable to establish consistency across all sites
		25-Aug		Cable not yet shipped
32	WND			Inspect anemometer surge protection
		20-Aug	0.5	Surge protection inspected.Ok
33	OTHER			Review fiber optic cables and determine spares needed in pre-terminated lengths
		25-Aug	2	Review report sent to L.Jones and K.Nitschke
33A	OTHER			Prepare report on Van floor degradation
		25-Aug	2	Review report sent to L.Jones and K.Nitschke
34	PWR			Change out 6 12V Gell Cell Batteries for Instrument Field Power
		23-Aug	2	Changed out 6 of 8 batteries
35	LICOR			Troubleshoot
		21-Aug	1	Awaiting response from Chuck Long
		22-Aug	1	Chuck Long unable to assist, received a possible useful program file for logger, sent file to Chuck Long to verify.
		27-Aug	1	Uploaded program file to data logger wil retrieve data in two days time
		30-Aug	1	Chuck Long reported that retrieved data is OK.
36	GENSET			Check generator operation - it runs approx. 30 min/day w/o power outage
		17-Aug		under test
		18-Aug		Generator did not run w/o power outage
		22-Aug		30min/day run problem rectified
37	COMM			Verify dial-out procedure
		18-Aug	0.5	Verified VOIP connection to US outside line
		19-Aug	2	Install new phone in E-Van connected VOIP and satphone to phone
38	OTHER			Replace 9V Battery in Automatic Transfer Switch Exercise Module
		17-Aug	0.5	Battery replaced
39	VANS			Evaluate need to replace roll around stairs to access top of vans (old stairs were disposed of because of rust)
		24-Aug	1	Information in reference to current site status sent to L.Jones
39A	H2Gen			Electrolyser & RBL Maintenance
		26-Aug	4	Electrolyser Maintenance progressing
		27-Aug	6	Electrolyser and RBL maintenance complete
39B	AWS			Troubleshoot humidity fault
		27-Aug	2	Replaced humidity probe with spare that arrived, fault became intermittent, further investigation found a corroded pin#2, replaced using an unused pin of connector. Connector to be replaced next site visit.
40	HVAC			HVAC routine maintenance
		23-Aug	1	Completed
41	OTHER			Perform routine maintenance tasks as per Maintenance Checklist
				In progress

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		29-Aug		Routine maintenance tasks completed
42	OTHER			Check ARM Kiosk
		30-Aug		OK
	SHIPPING			List items to be shipped following visit
				Ship a spare GC25 to Manus
				Ship old AERI scene mirror
				Anemometer serial# 18426/72577
				OLD Data system Hard Drives
	FUTURE NEEDS			List items needed for future visits (spares, etc.)
				Cat 5 cable
				Cat 5 crimp kit
				Lan cable test unit
				Molecular Sieve dessicant for GC25
				Single phase power cable
				Air Filter membrane for MMCR Receiver/Modulator
				Epoxy Resin to seal fibreglass stands and enclosures
				Industrial First Aid kit